PROGRAM REVIEW OF

STATE OF CALIFORNIA

DRINKING WATER LABORATORY CERTIFICATION PROGRAM

November 27-28, 2018

CONDUCTED BY

Amy Wagner
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U.S. EPA REGION IX
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APR 18 2019

Darrin Polhemus, Deputy Director
Division of Drinking Water
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Dear Mr. Polhemus:

On November 27 & 28, 2018, USEPA Region IX Laboratory Certification Officers Amy Wagner, Cynthia Williams, Christopher Cagurangan, Andrew Lincoff, and Shannon Behmke conducted a program review of California's Drinking Water Laboratory Certification Program. The review included discussions with the Environmental Laboratory Accreditation Program (ELAP) Chief Christine Sotelo; Supervisors Jacob Oaxaca, Maria Freedman, and Dr. Christopher Ryan; QA Officer Eric Yee; and Staff Services Analyst, Katelyn McCarthy. The program review is a Safe Drinking Water Act requirement for the State to maintain primacy.

Enclosed is our report on the status of the program. We request that ELAP address findings and recommendations by providing a corrective action plan within 60 days of receipt of this report. We also request a program update from ELAP within 6 months regarding ongoing regulatory and program changes. This program update should also address corrective actions implemented.

We appreciate the State Water Board Office's courtesy and cooperation during the program review, and we look forward to working together to further improve California's Drinking Water Laboratory Certification Program. If you have any questions concerning this matter, please contact me either at (510) 412-2311 or husby.peter@epa.gov.

Sincerely,

Peter Husby
Laboratory Director

Enclosure

cc: Corine Li, Drinking Water Management Section, USEPA
Christine Sotelo, Chief Environmental Laboratory Accreditation Program, SWRCB

INTRODUCTION

On November 27 & 28, 2018, Amy Wagner, Cynthia Williams, Christopher Cagurangan, Andrew Lincoff, and Shannon Behmke conducted a program review of the State of California Water Resources Control Board's Environmental Laboratory Accreditation Program (ELAP) for drinking water. The purpose of the review was to ensure that the State's delegated laboratory certification program was in compliance with the U.S. Environmental Protection Agency's (USEPA) regulations promulgated under the Safe Drinking Water Act at 40 CFR 141. The program review was conducted according to the procedures set forth in USEPA's Manual for the Certification of Laboratories Analyzing Drinking Water - Fifth Edition (January 2005); hereafter referred to as the USEPA Manual.

The review consisted of discussions with ELAP Environmental Program Manager, Christine Sotelo, and program managers and staff, Katelyn McCarthy, Maria Friedman, Chris Ryan, Eric Yee, and Jacob Oaxaca. The Laboratory Certification Officers (LCOs) interviewed by phone included Manjeet Kauer, Elano Galvez, and Ali Hossain from the Glendale office and Karen Lee from the Richmond office. Maria Friedman, Supervisor of the Glendale office, and Frank Riley from the Sacramento office were interviewed in person. The USEPA LCO team also reviewed the ELAP Quality Assurance Manual (QAM), Standard Operating Procedures (SOPs), ELAP's contractor NV5/Dade Moeller (NV5) Assessor drinking water certifications, and electronic files for 29 laboratory certifications conducted by ELAP and contractor LCOs in the past year.

PROGRAM OVERVIEW

Organization/Program Scope and Responsibilities

The scope of ELAP is to assess and certify laboratories in the analysis of drinking water samples. It also licenses laboratories in the analysis of wastewater, shellfish, and hazardous waste. In 2014, the ELAP program, which is comprised of 25 staff, transitioned from the California Department of Public Health (CDPH) to the California State Water Resources Control Board (SWRCB) Division of Drinking Water Program Management Branch. ELAP currently certifies 361 drinking water laboratories - 338 are in-state and 23 are out-of-state. As of October 3, 2018, the ELAP drinking water laboratory certification program certified 249 laboratories in chemistry, 292 in microbiology, 16 in radiochemistry, and 8 in *Cryptosporidium* analyses of drinking water samples.

In 2014, ELAP withdrew as an accrediting body from The National Environmental Laboratory Accreditation Conference Institute (TNI). Recently, ELAP proposed draft regulations to adopt the TNI 2016 standard with several exceptions ("TNI-lite"). Preliminary public workshops were conducted throughout the state in the summer of 2018 to review the draft regulations, solicit comments, and answer questions from the public. NV5, a third-party auditor, is providing laboratories a broad gap analysis on readiness for meeting the proposed "TNI-lite" regulations separate from findings in the onsite assessment reports.

Staffing and Resources

ELAP staff changes since 2017 include the addition of Quality Assurance Officer Eric Yee, promotion of Jacob Oaxaca in the Program Development Research and Enforcement Unit after the departure of Maryam Khosravifard, and the retirement of LCO Dharmendra Rishi. ELAP employs 10 LCOs who have the highly technical expertise and qualifications required by USEPA to conduct drinking water onsite assessments. However, in 2018, very few of these LCOs were assigned to conduct drinking water onsite assessments. Instead, drinking water LCOs were assigned primarily to wastewater, shellfish, and hazardous waste audits, which do not require USEPA training. A majority of the onsite drinking water assessments in 2018 were conducted by six NV5 LCOs. The ELAP LCOs shadowed the NV5 assessors for at least one onsite assessment of accredited drinking water laboratories. Two ELAP LCOs conducted all the reciprocity reviews and recommendations for certifications in the past year.

During the 2017 program review, ELAP informed USEPA that the third party NV5 contract was designed to absorb 60% of the workload to help clear the program backlog, particularly for laboratories that are near or over the three-year assessment deadline. This reduction was not accomplished in 2018. Rather, the backlog for labs that have missed the three-year assessment deadline increased from 10 in 2016, to 70 in 2017, then to 96 in 2018 (See Attachment 1).

Certification Process and Documentation

In terms of its accreditation process, ELAP has continued to improve some documentation. Electronic folders are available for laboratories seeking accreditation. The electronic folders contain applications, PT results, onsite assessment reports (OSARs), corrective action plans (CAPs) from drinking water labs, and certificates. The electronic folders also contain email communications between ELAP, NV5 assessors, and drinking water laboratories. Currently, after an NV5 assessor conducts an onsite assessment, ELAP LCOs provide a technical review of the onsite assessment and corrective action reports. After the technical review, the Accreditation Council composed of Program Chief Christine Sotelo, Administrative Analyst Katelyn McCarthy, and PT Unit Supervisor Chris Ryan review the NV5 reports, PT results, and CAPs from the assessed laboratories to make the final determination for accreditation.

In addition to an onsite assessment once every three years, drinking water laboratories need to annually, and satisfactorily, analyze PT samples to maintain certification status. PT results from each applicant laboratory are reviewed by three full-time technical ELAP LCOs. Currently, PT results are not reviewed as the results become available due to the lack of a database to manage annual PT submissions from approximately 361 drinking water labs. Instead, PT review is conducted when new, amendment, and biennial renewal applications are submitted. PTs are also reviewed the year after the certification is awarded. Additionally, prior to laboratory onsite assessments, ELAP and NV5 assessors review PT results of the previous year. Labs that fail two PTs in a row are downgraded and the failing analytes are removed from that lab's Fields of Testing (FOT). ELAP is proposing, in new regulations, to require labs to stop reporting

analytes that have failed a PT and to notify their customers.

ELAP's drinking water laboratory certification program is consistent with USEPA's Manual, with the exceptions of onsite auditing frequency and audit documentation. Laboratories are licensed by method and analyte. Laboratories may be downgraded based upon criteria in Chapter III of the Manual, which includes failure to use mandated methods, unacceptable or missing results on PT samples, failure to notify the State of changes in address or key personnel, and deficiencies found during onsite evaluations. The ELAP QAM describes revoking/suspending/denying certification and ELAP provided examples of all three in its documentation. ELAP provides monthly lists to the Division of Drinking Water District Offices of laboratories no longer accredited to perform drinking water analyses and posts a map of laboratory accreditation status on its website. Although the ELAP QAM describes the process for downgrading or revoking certification in Section IV E, a SOP should be included to detail this process.

Records Review

The program review by USEPA included an evaluation of a selection of ELAP's recent certification records of drinking water laboratories from 11/01/17 to 10/22/18. The files chosen were a cross-section of municipal and commercial drinking water laboratories as well as all fields of testing methods (e.g., microbiology, inorganic chemistry, organic chemistry, radiochemistry, and *Cryptosporidium*). The files reviewed also included a cross-section of onsite assessments conducted by NV5 and ELAP LCOs.

Review of these files shows that all laboratory onsite assessments for drinking water were conducted by ELAP or NV5 LCOs who were trained by USEPA in the disciplines for which they were auditing. Turnaround times ranged from 20 to 76 days from onsite audit completion to issuance of onsite assessment reports. EPA recommends that NV5 final onsite assessment reports be dated for program consistency. Review of the files indicates improvements in file structure, PT records, communication, and certificate issuance. The following files were audited:

Laboratory Name	Type of Assessment	Site Visit
City of Fresno Wastewater Management Division Laboratory	Onsite	12/4/2017-12/6/2017
Central Marin Sanitation Agency	Onsite	12/13/2017
E & J Gallo Winery	Onsite	12/14/2017-12/15/2017
City of Stockton, Municipal Utilities Department (MUD), Delta Water Treatment Plant Lab	Onsite	10/30/2017
BSK Associates	Onsite	11/7/2017-11/9/2017
San Joaquin County Public Health Laboratory	Onsite	11/30/2017
City of Modesto Water Quality Control Laboratory	Onsite	12/12/2017-12/14/2017
City of Reedley Wastewater Treatment Plant Laboratory	Onsite	11/9/2017
Fruit Growers Laboratory - Stockton	Onsite	11/28/2017-11/29/2017
Abalone Coast Analytical, Inc.	Onsite	1/22/2018
City of Turlock	Onsite	12/5/2017-12/6/2017
BSK Associates	Onsite	11/7/2017-11/9/2017
GeoAnalytical Laboratories, Inc.	Onsite	12/5/2017-12/7/2017
Padre Dam Water Recycling Laboratory	Onsite	5/21/2018-5/22/2017
Sacramento Regional County Sanitation District Environmental Laboratory	Onsite	2/16/2018-2/21/2018
Cel Analytical	Onsite	2/19/2018-2/20/2018
Silver State Analytical Labs - SEM Reno	Reciprocity	
EMSL Analytical Inc.	Reciprocity	
TestAmerica Savannah	Reciprocity	
Western Environmental Testing Laboratory - Las Vegas	Reciprocity	
Delta Diablo Sanitation District Laboratory	Offsite	N/A
Food Microbiological Laboratories, Inc.	Offsite	8/20/2018
Applied Industrial Microbiology, Inc.	Offsite	5/17/2018
City of Tracy Utilities Department Laboratory	Offsite	11/30/2017
R.E. Badger Filtration Plant	Offsite	5/14/2018
Metropolitan Water District of So. Ca. - Robert A. Skinner WTP Lab	Interim	9/27/2018
City of San Diego Water Quality Laboratory	Interim	4/16/2018
John C. Bargar Water Treatment Plant	Interim	4/27/2018
Travis Air Force Base Water Laboratory	Interim	10/18/2016

FINDINGS

Onsite Assessment Backlog

Onsite assessments and proficiency testing (PT) results assist ELAP in determining whether a laboratory maintains the required standard to be certified as a drinking water laboratory. ELAP's policy is to inspect drinking water laboratories once every two years. USEPA's guidance in the Manual for onsite assessments is to conduct one no later than every three years. However, as of November 28, 2018, at least 96 drinking water laboratories have not been assessed in-person in over three years (see Attachment 1).

The third party NV5 assessor contract was designed to absorb 60% of the ELAP workload to help clear the program backlog, particularly for laboratories that are near or over the three-year assessment deadline. This reduction was not accomplished in 2018. ELAP's backlog of onsite assessment has increased from 10 labs in 2016 to 96 labs in 2018. Rather than targeting laboratories that are overdue for an onsite assessment (within three years of the last onsite), ELAP has taken a geographic assessment strategy to conduct onsite assessments based on location to concentrate its resources (See Attachment 2). Therefore, some laboratories received more than one onsite assessment in less than one year (e.g., City of Turlock) while 45 laboratories have not received an onsite assessment in 4 - 9 years (Davi Laboratories Environmental Associates' last onsite assessment was on 4/14/2009). ELAP acknowledges delays and logistical challenges due to peer review of OSARs, corrective actions, and longer and more thorough onsite assessments. However, ELAP is not meeting USEPA's guidelines for onsite laboratory audits every three years

USEPA is also concerned that some of the labs that had no onsite assessment, in over three years, were repeatedly issued new certificates for drinking water. It is USEPA's determination that offsite assessments, conducted in lieu of onsite assessments, do not meet USEPA guidelines for laboratory certification.

Missing Checklists from Onsite Laboratory Assessments

Laboratories must use the methods specified in the drinking water regulations at 40 CFR Part 141. Checklists are necessary documentation to understand the auditor's assessment of technical methodology and quality control. All ELAP LCOs who conducted onsite assessments provided copies of method review checklists in the files. Only 2 of 13 NV5 audit files reviewed contained checklists. Although the files often contain lengthy audit reports, they do not contain checklists covering both the method requirements and QC checks specified in the USEPA Manual. These files, therefore, do not contain adequate documentation of onsite audit completeness.

USEPA's 2017 Overview of ELAP's program contained the following finding: "The technical staff has showed increased documentation in their use of checklists as well as correspondence of findings. ELAP has recently revised the microbiology checklist, which is very comprehensive and provides consistency among auditors conducting microbiology laboratory evaluations."

Since the 2017 overview, many of ELAP's audits have been conducted by NV5. As part of USEPA's follow-up to the 2017 report, USEPA performed two on-site assessment reviews. LCO Cynthia Williams observed a lab onsite assessment of Sacramento Regional County Sanitation

District Environmental Laboratory from 2/16/18 to 2/21/18, and USEPA LCO Andrew Lincoff observed a lab onsite assessment of Cel Analytical on 2/20/18. USEPA found the NV5 assessors who conducted the audits were well-qualified and thorough in their assessments. However, the NV5 auditors are not using ELAP's new checklists and are not providing their own checklists to ELAP. USEPA LCO Andrew Lincoff provided the following comments on the Cel Analytical audit that were emailed to ELAP on 2/26/2018:

> *"The NV5 auditors are experienced and qualified. There was, however, one major area of concern. The NV5 auditors said they had their own checklists for most but not all of the methods examined. These were not made available to the lab, and, according to the auditors, would also not be provided to the State as documentation of the audit. The primary finding of USEPA's program reviews since ELAP's move to the Regional* [State] *Board has been the lack of documentation in ELAP's certification files of complete auditing by method. At the closing meeting, the NV5 staff stated that they would only provide a report listing deficiencies. This will not be sufficient documentation of the completeness of the audits. During our discussions in the last two program reviews, we emphasized the need for State files to contain documentation of review of each certified method's specific procedural and quality control requirements. While the NV5 auditors had checklists for most of the drinking water methods, if these are not provided to the State, and included in the certification files, there will be inadequate documentation available for USEPA to determine the adequacy of the State's program."*

Following this email, ELAP staff were directed to use checklists but NV5 auditors were not sent this memo. This finding is a repeat deficiency that needs to be addressed for program consistency and to allow complete overviews of the State's drinking water certification program.

Improper Citation of Drinking Water Regulations

Many of NV5's findings erroneously cite USEPA regulations for authority. An example of the language commonly used throughout NV5's OSARs is "Regulation that establishes the requirement [2]: SM 9020.B.6-2005." The following footnote is also listed for all findings in the report, "[2] Section 64415 of title 22 of the California Code of Regulations requires that 'analysis shall be made in accordance with U.S.EPA approved methods as prescribed at 40 Code of Federal Regulations parts 141.21 through 141.42, 141.66, and 141.89,' unless directed otherwise by the State Water Board."

The USEPA regulations cited above are frequently used in the OSARs to imply that all of Standard Methods (SM) 9020 is a requirement for all microbiology methods. Blanket enforcement of SM 9020 is not a requirement of USEPA regulations and, furthermore, it conflicts with the clear intent of 9020. SM 9020A states that labs should develop appropriate quality systems:

> *"The laboratory practices set forth in Section 9020 are not mandatory, but represent practices that should be followed. Each laboratory must develop its own QS suitable*

for its needs and, in some cases, as required by regulatory agencies, standard-setting organizations, and laboratory certification or accreditation programs."

and:

"Documented quality systems will vary among laboratories as a result of differences in organizational mission, responsibilities, and objectives; laboratory size, capabilities, and facilities; and staff skills and training."

Standard Methods is not a regulation, nor is it part of USEPA approved drinking water methods. Only in cases where a USEPA method specifically refers to Standard Methods should USEPA regulations at 40 CFR Part 141 be used to support the statement that the finding is a requirement. In all other cases, the footnote referring to USEPA methods and regulations should be removed from the OSARs unless ELAP decides to enforce more stringent standards than required by USEPA methods and regulations and cites its own authority to do so.

RECOMMENDATIONS

Staffing and Resources

ELAP anticipates that the on-site backlog will be resolved in 1.5 years by its current ELAP LCOs and NV5 LCOs.

Recommendation #1: ELAP should reevaluate its geographic assessment strategy and instead prioritize its resources towards those laboratories that have not received an onsite visit in at least three years.

Adequate staffing of the certification program is a concern. ELAP is currently not using its 10 EPA-certified drinking water LCOs for lab certification and has instead assigned them to tasks not requiring LCO training. USEPA requires that drinking water laboratories be audited by staff who have passed USEPA's annual Laboratory Certification Officer's Training Course in the following fields: inorganic chemistry, organic chemistry, microbiology, and *Cryptosporidium*. Radiochemistry audits must be conducted by an LCO who has passed the inorganic chemistry course and taken additional radiochemistry training. The USEPA courses are rigorous, and a significant percentage of nominees do not pass on their first attempt. When ELAP was transferred to the State Water Resources Control Board, the program had 18 LCOs. The 10 remaining still have the experience and technical qualifications to perform audits in all fields of drinking water testing. Most of these LCOs also have experience and training in conducting NELAP (TNI) audits, since CDPH was a TNI Accreditation Body until 2014.

Recommendation #2: ELAP should update its succession planning by hiring and training new staff in USEPA's drinking water laboratory certification practices and backfilling retiring staff to ensure the ongoing viability of the program.

In the 2019 calendar year, ELAP plans to have NV5 LCOs shadow ELAP LCOs to ensure ELAP LCOs properly lead the drinking water audits and apply what they have learned from NV5 trainings and observations. The following recommendations are provided so that a reciprocal

relationship between LCOs can be unbiased and laboratory assessments are consistent:

Recommendation #3: ELAP should provide a consistent format for conducting onsite assessments, including information gathered and reviewed before, during, and after the assessments. ELAP LCOs were not provided this information last year since they only shadowed NV5 auditors during onsite assessments.

Recommendation #4: ELAP should provide standardized checklists for all methods and regulatory requirements to be used by both ELAP and contract LCOs..

Recommendation #5: ELAP should provide a format for OSARs and CAPs.

Recommendation #6: ELAP should provide more current and additional training for ELAP LCOs before initiating the shadowing.

Recommendation #7: ELAP should clearly define how NV5 assessors will shadow and rate the quality of ELAP LCO's audits to avoid any conflicts of interest. (See the USEPA Manual, Chapter 3, Section 4.2 regarding third party conflicts of interest.)

Recommendation #8: ELAP should continue a relationship with the Drinking Water and Radiation Laboratory at the California Department of Public Health for technical training opportunities related to drinking water methods.

Proficiency Testing (PT) Evaluation

The PT Review team has made progress since last year's USEPA program review. PT results were provided to USEPA when requested, though to varying degrees of completeness. ELAP keeps current PT records in its ELAP Tool, but the software does not meet USEPA's standard for record retention as it only stores the most current records. The previous PTs are, however, referenced in the ELAP Tool and indicate whether previous PTs passed or failed. Also, all PTs are kept in a "Master File" and are sorted by year.

The USEPA Manual states that labs must submit acceptable PT results annually for chemistry and USEPA has always recommended the same for microbiology. ELAP reviews laboratory PTs when an initial application, renewal, or amendment is submitted, or during an onsite assessment. NV5 is reviewing PT results for at least the prior year as part of its onsite assessments. ELAP requires labs to reapply for certification every two years and every application (due 90 days prior to the expiration of its certification) must contain current PTs. PTs are also reviewed for the year after the certification is awarded. These practices suggest that PTs are reviewed at least annually. USEPA notes that even these practices would possibly not address a PT failure until months after submittal.

Recommendation #9: ELAP should continue to devote resources to PT review with the goal of meeting EPA guidelines. A beta version of a web portal is currently being tested, but it does not allow real-time evaluation, does not retain historical PTs, and has no audit trail.

ELAP should continue updating the beta version of the PT database to allow record retention or purchase software that can be customized to fit its needs.

Certification Documents

ELAP Certificates by Reciprocity do not list the primary State(s) on the actual certificate, nor do any certificates specify what that lab is certified for (e.g., drinking water, wastewater, recycled water, hazardous waste). The reciprocity certificates have been improved to identify the primary certification State or Authority in the Fields of Testing (FOT) table. ELAP should continue to work with the State Water Boards' Division of Information Technology (DIT) to modify certificates.

Recommendation #10: ELAP should include the primary State(s) and area(s) of certification in the cover letter sent to the laboratories. ELAP's documentation should clearly state that certification by reciprocity is dependent on the lab maintaining primary certification. Should certification for a parameter be revoked by the primary authority, the lab must immediately notify ELAP, and ELAP certification by reciprocity for that parameter will also be automatically revoked.

CONCLUSION

ELAP has worked cooperatively with USEPA in the continual improvement of its program. ELAP responded to findings in the 2017 USEPA drinking water overview audit report dated 12/12/17 in a corrective action letter dated 2/15/18. Electronic folders are much more complete containing Onsite Assessment Reports, Corrective Action Plans, Proficiency Testing review, and communication with the labs. The reciprocity certificates now list the primary State(s) on the FOT. Additionally, ELAP conducts annual PT reviews that have resulted in correcting deficiencies or denying accreditation due to unacceptable PT results, lack of annual participation, or reporting errors. However, there are several areas of concern including resolving the backlog, issuing certifications to labs without the required onsite assessments, focusing resources of ELAP technical staff to perform onsite inspections, ensuring that third party contractors include their technical checklists, and moving to an electronic PT management system. The USEPA team requests a Corrective Action Plan from ELAP addressing the findings and recommendations within 60 days of receipt of this report and a follow up meeting in six months. The goal of the meeting is to provide the USEPA team an update on the implementation of the corrective actions and any program changes.

Attachment 1: Drinking Water Laboratories without an On-Site Assessment within 3 years

#	LabName	CertNo	Last Onsite Visit Date	FOTs	County
1	Davi Laboratories Environmental Associates	1438	2009-04-14	r	Contra Costa
2	Zalco Laboratories, Inc.	2791	2013-09-17	m,c	Kern
3	Delta Environmental Laboratories	1857	2011-03-23	c	Solano
4	City of Soledad Water Quality Control Laboratory	2786	2011-08-10	m,c	Monterey
5	City of Santa Cruz Environmental Laboratory	1176	2011-10-13	m	Santa Cruz
6	Garratt-Callahan Laboratory	1226	2012-05-02	c	San Mateo
7	AIH Laboratory	2811	2012-10-23	m	Orange
8	San Francisco PUC - Moccasin Laboratory	2341	2012-10-30	m,c	Tuolumne
9	Advanced Technology Laboratories	1838	2012-12-03	c	Los Angeles
10	Zone 7 Water Quality Laboratory	1403	2012-12-04	m,c,r	Alameda
11	Oliverhurst Public Utility District	1486	2013-04-30	m,c	Yuba
12	City of Fortuna Wastewater Treatment Plant	1378	2013-06-14	m	Humboldt
13	North Marin Water District	1574	2013-08-08	m,c	Marin
14	Water Environmental Testing Laboratory	2082	2013-09-25	m	El Dorado
15	Fruit Growers Laboratory	2670	2013-10-10	m,c	Butte
16	Cranmer Engineering, Inc.	1936	2013-10-25	m,c	Nevada
17	Soil Control Laboratory	1494	2013-01-15	m,c	Santa Cruz
18	San Lorenzo Valley Water District	2117	2014-01-16	m	Santa Cruz
19	Micro Analytical Laboratories, Inc	1037	2014-02-04	c	Alameda
20	Las Gallinas Valley Sanitary District	2407	2014-02-06	m	Marin
21	Camrosa Water District Wastewater Laboratory	2751	2014-02-26	m	Ventura
22	Camarillo Sanitary District Laboratory	1039	2014-02-27	m	Ventura
23	Clinical Laboratory of San Bernardino II	1678	2014-03-12	m,c	Santa Barbara
24	City of Shasta Lake Wastewater Treatment Facility	2429	2014-04-08	m	Shasta
25	Novato Sanitary District Laboratory	1092	2014-04-15	m	Marin
26	City of Lompoc Water Treatment Plant Laboratory	1064	2014-04-16	m,c	Santa Barbara
27	City of Petaluma Water Quality Laboratory	1063	2014-04-22	m	Sonoma
28	City of Healdsburg Water Reclamation Facility	2726	2014-04-23	M	Sonoma
29	City of Eureka Water & Wastewater Laboratory	1360	2014-04-24	m,c	Humboldt
30	Marina Coast Water District	1617	2014-04-25	m,c	Monterey
31	Sonoma County Water Agency - Russian River TP	2292	2014-04-25	m	Sonoma
32	Alpha Analytical Laboratories, Inc.	2728	2014-06-19	m,c	Alameda
33	Inyo County Water Lab	1680	2014-06-19	m	Inyo
34	Crescent City Water Quality Laboratory	1465	2014-06-24	m,c	Del Norte

35	Orange County Public Health Laboratory	2545	2014-07-10	m	Orange
36	Kern County Water Agency	1082	2014-08-06	m,c	Kern
37	EMSL Analytical, Inc. - South Pasadena	2283	2014-09-26	m	Los Angeles
38	Tulare County Public Health Laboratory	1285	2014-09-30	m	Tulare
39	Exova, Inc.	2652	2014-10-09	c	Los Angeles
40	City of Antioch Water Treatment Plant	1383	2014-11-05	m,c	Contra Costa
41	City of Santa Monica/Water Quality Laboratory	1469	2014-11-06	m,c	Los Angeles
42	City of Fairfield, Water Treatment Plant Lab	1472	2014-11-19	m,c	Solano
43	Corning Wastewater Treatment Plant	2397	2014-11-24	m	Tehama
44	Pactiv Corporation	1071	2014-11-25	c	Tehama
45	George Kriskoff Water Treatment Plant- City of Sacramento	1832	2015-01-15	m	Yolo
46	Pace Analytical National Center for Testing & Innovation - Davis	2961	2015-01-22	c	Yolo
47	CM Analytical, Inc.	1423	2015-02-19	m,c	Santa Clara
48	The Coca-Cola Company	2549	2015-02-23	m	Orange
49	Modesto Regional Water Treatment Plant Laboratory	2042	2015-02-26	m,c	Stanislaus
50	Mariposa Public Utility District	1872	2015-02-26	m,c	Mariposa
51	Long Beach Water Department Water Quality Laboratory	1409	2015-03-10	m,c	Los Angeles
52	Goleta Sanitary District	1374	2015-04-01	m	Santa Barbara
53	Environmental Monitoring Division (EMD) at DCT Water Reclamation Plant	1477	2015-04-03	m	Los Angeles
54	Cerco Analytical, Inc.	2153	2015-04-07	m,c	Contra Costa
55	Oilfield Environmental & Compliance Inc. (OEC)	2438	2015-04-07	m,c	Santa Barbara
56	City of South San Francisco - San Bruno	2296	2015-04-14	m	San Mateo
57	Pittsburg Municipal Water Treatment Plant Laboratory	1479	2015-04-14	m,c	Contra Costa
58	University of California, Davis, Wastewater Treatment Plant Lab	2343	2015-04-15	m	Solano
59	Town of Windsor Laboratory	2942	2015-04-22	m,c	Sonoma
60	Ukiah Wastewater Treatment Plant	2463	2015-04-24	m	Mendocino
61	Antelope Valley-East Kern Water Agency (Avek)	1460	2015-05-14	m,c	Los Angeles
62	Las Virgenes Municipal Water District Laboratory	1533	2015-05-19	m,c	Los Angeles
63	Environmental Monitoring Div (EMD) Lab at Terminal Island Water Reclamation Plant (TIWRP)	1546	2015-05-20	m	Los Angeles
64	City of Pasadena Water Quality Laboratory	1473	2015-06-18	m,c	Los Angeles
65	Los Angeles County Public Health Laboratory	1430	2015-06-18	m,c	Los Angeles
66	Ventura County Public Health Laboratory	1910	2015-06-18	m	Ventura

67	Central Coast Water Authority	2246	2015-06-19	m,c	San Luis Obispo
68	Bioscreen Testing Services, Inc.	1565	2015-06-22	m	Los Angeles
69	Sewerage Agency of Southern Marin	1538	2015-07-03	m	Marin
70	Capco Analytical Services	2332	2015-07-08	m,c	Ventura
71	City of Grass Valley - Water Quality Laboratory	1762	2015-07-15	m	Nevada
72	San Luis Obispo County Water Quality Laboratory	1592	2015-07-15	m,c	San Luis Obispo
73	Basic Laboratory, Inc - Chico	2718	2015-07-16	m,c	Butte
74	Three Valleys Municipal Water District	1581	2015-07-20	m	Los Angeles
75	City of Benicia Water Laboratory	2655	2015-07-23	m,c	Solano
76	Asbestos TEM Laboratories, Inc	1866	2015-07-29	c	Alameda
77	Fruit Growers Laboratory - Santa Paula	1573	2015-07-29	m,c,r	Ventura
78	South Feather Water & Power Agency	1545	2015-07-30	m	Butte
79	Agua De Lejos Water Treatment Plant Laboratory	1942	2015-07-31	m	San Bernardino
80	Corona del Mar Water Treatment Plant	1567	2015-07-31	m,c	Santa Barbara
81	Alameda County Public Health Laboratory	2252	2015-08-06	m	Alameda
82	City of Arcata Water Quality Laboratory	2699	2015-08-13	m	Humboldt
83	City of Placerville Water Reclamation Facility	2285	2015-08-17	m	El Dorado
84	City of Redding Clear Creek Wastewater Treatment Plant Lab	1401	2015-08-20	m,c	Shasta
85	Alameda County Water District Water Quality Laboratory	1524	2015-09-02	m,c	Alameda
86	Scotts Valley - City Wastewater Reclamation Facility Lab	1062	2015-09-04	m	Santa Cruz
87	AGQ USA	2977	2015-09-15	c	Ventura
88	Environmental Monitoring Div (EMD) Lab at Hyperion treatment Plant (HTP)	1723	2015-09-22	m,c	Los Angeles
89	Camrosa Water District Laboratory	1638	2015-09-23	m,c	Ventura
90	City of Santa Cruz Water Quality Laboratory	1875	2015-09-23	m,c	Ventura
91	South Tahoe Public Utility District	1569	2015-10-06	m,c	El Dorado
92	American Environmental Testing Laboratory, Inc	1541	2015-10-08	c	Los Angeles
93	Shasta County Public Health Laboratory	2156	2015-10-22	m	Shasta
94	City of Porterville Laboratory	1653	2015-11-03	m,c	Tulare
95	Casitas Municipal Water District	1696	2015-11-12	m	Ventura
96	American Scientific Laboratories, LLC	2200	2015-11-24	c	Los Angeles

c	Chemistry
m	Microbiology
r	Radiochemistry

Attachment 2: A geographic plot of labs with a complete onsite assessment, without an onsite assessment within 3 years, and with an onsite assessment in progress.